CLAIMS:

What is claimed is:

1. A method of cleaning a gas well comprising:
   a. injecting into a well an aprotic solvent wherein an aprotic solvent solute is formed from the reaction of the aprotic solvent, solids and debris in the well and surrounding formation;
   b. removing said aprotic solvent solute from the well and formation;
   c. injecting into the well a protic solvent wherein a protic solvent solute is formed from the reaction of the protic solvent, solids and debris in the well and surrounding formation; and,
   d. removing said protic solvent solute from the well and formation.

2. The method of claim 1 wherein the aprotic solvent is chosen from the group consisting essentially of ethers, ketones and halogenated hydrocarbons.

3. The method of claim 1 wherein the aprotic solvent is dimethyl sulfoxide,

4. The method of claim 1 wherein the aprotic solvent is acetone.

5. The method of claim 1 wherein the aprotic solvent is dimethyl formamide.

6. The method of claim 1 wherein the aprotic solvent is tetrahydrofuran.

7. The method of claim 1 wherein the aprotic solvent is methylene chloride.

8. The method of claim 1 wherein the protic solvent is water.

9. The method of claim 1 wherein the protic solvent is ammonia.

10. The method of claim 1 wherein the protic solvent is hydroxide.

11. The method of claim 1 wherein the protic solvent is caustic soda.

12. The method of claim 1 wherein the protic solvent is sodium hydroxide.

13. The method of claim 1 further comprising determining the solvating capacity of the aprotic solvent solute.

14. The method of claim 1 further comprising determining the solvating capacity of the protic solvent solute.

15. A system for cleaning a gas well comprising:

a. means for injecting into a well an aprotic solvent wherein an aprotic solvent solute is formed from the reaction of the aprotic solvent, solids and debris in the well and surrounding formation;

b. means for removing said aprotic solvent solute from the well and formation;

c. means for injecting into the well a protic solvent wherein a protic solvent solute is formed from the reaction of the protic solvent, solids and debris in the well and surrounding formation; and,

d. means for removing said protic solvent solute from the well and formation.

16. The system of claim 15 wherein the aprotic solvent is chosen from the group consisting essentially of ethers, ketones and halogenated hydrocarbons.

17. The system of claim 15 wherein the aprotic solvent is chosen from the group consisting essentially of dimethyl sulfoxide, acetone, dimethyl formamide, tetrahydrofuran and methylene chloride.

18. The system of claim 15 wherein the protic solvent is chosen from the group consisting essentially of water, ammonia, hydroxide caustic soda and sodium hydroxide.

19. The system of claim 15 further comprising means for determining the solvating capacity of the aprotic solvent solute.

20. The system of claim 15 further comprising means for determining the solvating capacity of the protic solvent solute.